Impact highlights

- Thanks to the enhanced collaborative capabilities developed by Noesis in the C³PO project, aerospace and automotive engineers from different teams worldwide benefit from the possibility to share engineering workflows, data and knowledge related to common design projects, enabling them to improve product performance by 10% or more and save on average over 30% in engineering time.

- For Studio Dott, the C³PO project gave access to a new market of citizen’s involvement and this is reflected in a projected revenue growth of €1.7 m within 5 years.

- The resulting demonstrator TCAVE helps Barco to sell its ‘Group VR’ solutions to the market. Barco’s annual revenue on this type of product is about €20 m. In addition, it will also further help Barco in commercialising other solutions such as PowerWalls and CANVAS, the latter addressing a new market segment, the Architecture, Engineering and Construction (AEC) industry, where Barco expects annual growth of about 10% in the coming three to five years.

- The new solutions developed by Mantis in the C³PO project pushed up their annual revenue by almost 15%. The know-how has also been used in other projects after C³PO.

- Netcad developed Netigma and Netcad Digital Universe which are marketed and sold in Turkey and in the Middle East region yielding in a revenue increase of 30%. Netigma is used extensively by local authorities (1000+ municipalities).

- The project also supported FCG’s expansion in three channels of its digital business: solution development, platform economy and SDK sharing. Between 2018-2022 this will result in an annual revenue growth of 5%. During C³PO, a computer scientist was hired who finalised his MSc in support of the project.
Project results
The project developed a cloud platform based on existing technologies and applications, as well as new products for the Smart Cities market. The project was strengthened by the involvement of the cities of Brussels, Kortrijk, Kouvola, Oulu and the Municipality of Pendik (a district of Istanbul).

Trials in Finland and Turkey demonstrated the value of markerless Augmented Reality (AR) for new urbanisation areas and 3D mock-ups for table-top urban planning and visualisation. Virtual Reality (VR) was demonstrated in virtual tours in case studies in Oulu and Kouvola, while the new Pendik Municipality building provided a setting for selecting different options. The trials in the city of Brussels focused on accessibility and were used as proof of concept of the codesign process using data integration, and the different C³PO tools and methods. The cooperation with the city of Oulu and other stakeholders has continued after project completion to further develop AR services in city planning.

Exploitation
In addition to these trials, the different partners benefited in their own way from the C³PO project. For example, Noesis developed the Noesis Process Portal and Semantic Workflows, which are key components that complement every co-design activity from city co-design to aircraft and automotive. The portal and the underlying workflows allow the setup of a true collaborative multidisciplinary design process and optimisation.

The Belgian design agency Studio Dott is commercialising a physical installation, the ‘Participation pavilion’ that can be placed anywhere by local authorities that want to collect a citizen-centred view on an urban design proposal.

One demonstrator created by Barco was the Transportable CAVE (TCAVE), a professional collaborative VR solution - a mobile setting that offers companies better immersive VR experiences. Citizens step inside the TCAVE wearing 3D glasses to see what a developed space would look like.

Belgian SME Createlli commercialised a participation platform and services. It has been used in 80+ projects so far in Belgium, Spain, France, the Netherlands and the UK.

Turkish company ERARGE developed a semantic framework that relies on the Urban Transformation and Transportation Ontology (UTTO). This approach enabled a data-driven and semantic traffic monitoring solution in Pendik to simulate how the city traffic may be affected by the urban transformation processes.

Mantis developed a screen that allows local authorities to showcase what people are saying on social media and an ontology platform where the data coming from different sources of a smart city can be managed by a single platform.

Netcad, another Turkish SME, is now commercialising a map and GIS-based platform called Netigma, helping local authorities and designers to analyse data, e.g. the density of urban traffic. Experience gained in C³PO led Netcad to join another project called ASUA and develop a state-of-the-art smart city platform called Netcad Digital Universe.

The Finnish FCG created the MAPGETS platform for interactive urban planning and the RAKSITE solution for interactive construction site management.

Finally, Playsign turns urban plans into immersive environments for better communication and co-design. It is an efficient tool for drafting, testing, communicating and creating future plans with citizens and other stakeholders.